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(E75-10036) EXPERIMENTAL EVALUATION OF N75-12406
ATMOSPHERIC EFFECTS ON RADIOMETRIC
MEASUREMENTS USING THE EREP OF SKYLAB
Quarterly (Environmental Research and
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EXPERIMENTAL EVALUATION OF ATMOSPHERIC EFFECTS

ON RADIOMETRIC MEASUREMENTS USING THE EREP

OF SKYLAB (EPN No. 439)

Contract No. NAS 9-13343

Prepared by

David T. Chang
Principal Investigator

Sixth Quarterly Progress Report

August 1974 - October 1974

Submitted by

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22 November 1974

National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas 77058

Attention: Larry B. York, Code TF6
Principal Investigations Management Office


Subject: Sixth Quarterly Progress Report
Experimental Evaluation of Atmospheric Effects
on Radiometric Measurement Using the EREP of
SKYLAB (EPN No. 439)
Contract No. NAS 9-13343

Gentlemen:

Enclosed is the sixth Quarterly Progress Report prepared and submitted by Environmental Research & Technology, Inc. (ERT) under Contract NAS 9-13343. The reporting period is for the three months between 7 August 1974 and 7 November 1974. The purpose of the study is to evaluate the effects of the atmosphere on radiometric measurements using the EREP sensors of SKYLAB.

In accordance with Appendix A of the Work Statement of the subject contract, the Financial Management Report is being submitted as a separate document.

Very truly yours,


David T. Chang
Project Scientist

DTC/11g

Enclosure

Experimental Evaluation of Atmospheric Effects
on Radiometric Measurements Using
the EREP-of SKYLAB

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1. Program Summary

S192 multispectral scanner digital data has been analyzed and a preliminary comparison made with theoretical results. Definitive conclusions cannot be drawn at this time since the immediately available data was gathered with the instrument in less than optimal configuration.

2. Work Accomplished During the Reporting Period

The following S192 computer compatible tapes were received during the quarter:

<u>Pass</u>	<u>Output Tape No.</u>	<u>Region</u>
2	921002/921003	Salton Sea
5	920042/920043	Bonneville Salt Flat
5	920044/920045	Wasach Range
5	921006/921007	Desert

A representative segment of data from output tape # 920042, Pass 5, 5 June 1973, was dumped in raw count form and calibrated to absolute radiance units using the given calibration parameters. Unfortunately, it has been reported that the C/D/P was not properly seated on the optical bench prior to SL3 corrections, and, therefore, the nature of the data is questionable. However, Figure 1 illustrates a comparison between the calibrated dumped data points (given by crosses) and theoretical calculations based on a desert like reflectance spectrum for a mid latitude summer atmosphere (given by circles). Channels 1, 4, and 5 were saturated for most of the scan. Agreement is reasonable (in magnitude, at least).

Further extensive analysis will await receipt of data in later passes where the instrument is optimally configured.

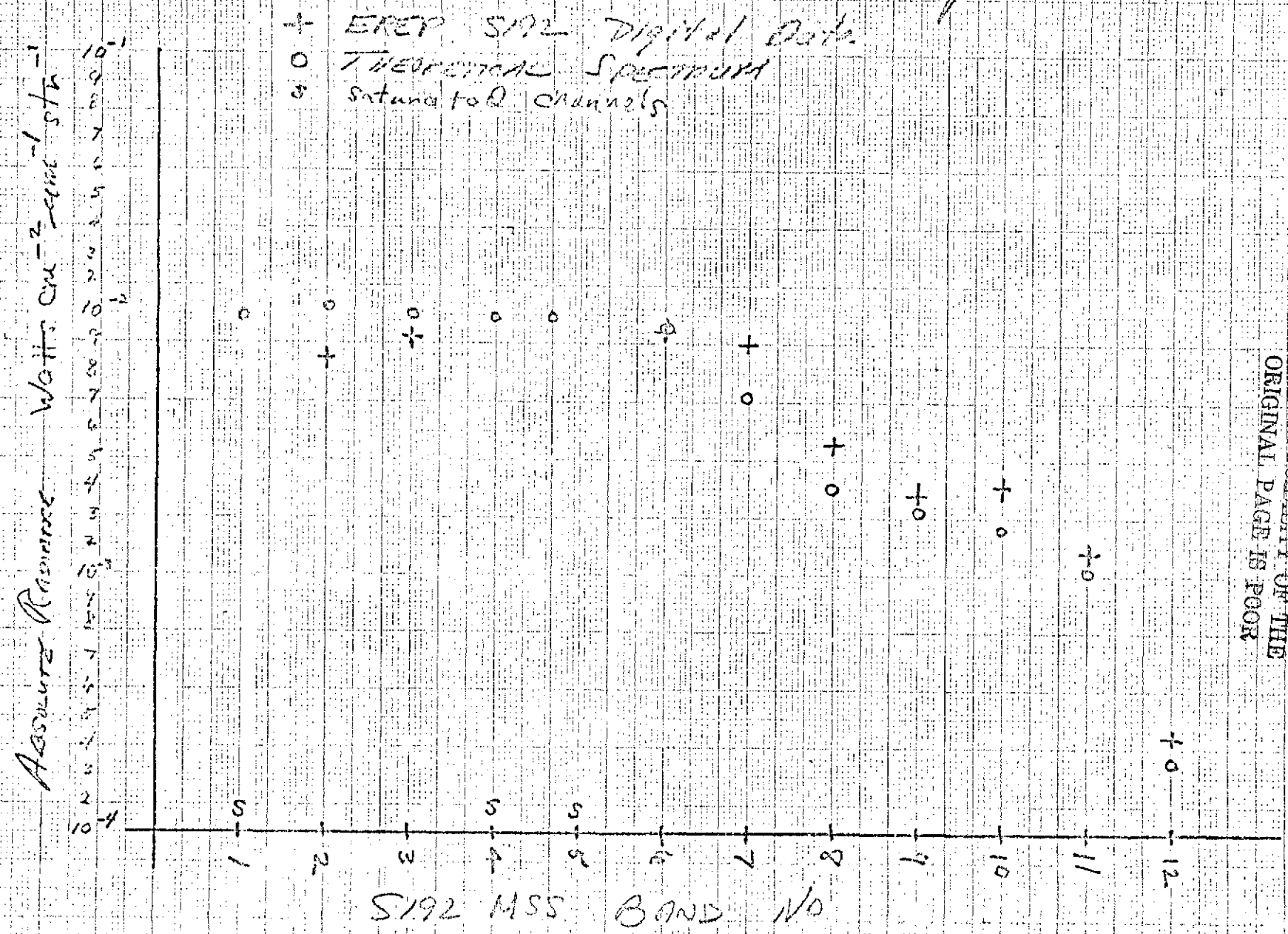
3. Significant Results

There are no significant results to report at this time.

4. Further Plans

Required analysis will await receipt of further data.

Figure 1. Comparison of S192 digital data (Pass 5, 5 June 1973, Bonville Salt Flat) with theoretical spectrum.



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